1909MNRAS..69..619D

Ephemeris of Flora near the time of Opposition in 1909.

By A. M. W. Downing, D.Sc., F.R.S.

This ephemeris is computed from Brünnow's *Tafeln der Flora*, in combination with the corrected continuation of certain of the tables published in *Monthly Notices*, vol. lxiv., No. 6.

Berlin, Midnight, 1909.	Apparent		Log Distance from Earth.
	R.A.	Dec.	
	h m s	° ′ ″	
November 1	3 54 36·63	+ 9 18 49·2	9·95786
2	53 47·38	16 37·7	·95660
3	52 56·42	14 31·0	·95544
4	52 3·85	12 29·7	·95438
5	51 9·78	10 33·9	·95342
6	50 14·32	8 44·3	·95256
7	49 17·62	7 0·8	·95180
8	48 19·75	5 24·0	·95115
9	47 20·76	3 54·6	·95061
10	46 20·78	2 32·5	·95018
11	45 19·97	1 18·4	·94987
12	44 18·38	9 0 12·0	·94966
13	43 16·18	8 59 13·8	·94956
14	42 13·55	58 25·1	·94958
15	41 10·56	57 45·8	·94972
16	40 7·34	57 15·9	·94996
17	39 3·95	56 55·0	·95032
18	38 0·58	56 44·6	·95079
☍ 19	36 57·36	56 44·5	·95137
20	35 54·42	56 54·8	·95207
21	34 51·81	57 15·6	·95288
22	33 49·61	57 46·9	·95379
23	32 48·00	58 28·8	·95481
24	31 47·10	8 59 22·0	·95594
25	30 47·02	9 0 26·3	·95718
26	29 47·83	1 41·7	·95853
27	28 49·54	3 8·2	·95998
28	27 52·38	4 45·8	·96152
29	26 56·42	6 34·6	·96317
30	26 1·75	8 34·7	·96492
December 1	25 8·43	10 45·9	·96677
2	3 24 16·46	+ 9 13 8·1	9·96871

1909MNRAS..69..619D

Berlin, Midnight, 1909.	Apparent						Log Distance from Earth.
	R.A.			Dec.			
	h	m	s	°	′	″	
December 3	3	23	26·03	+ 9	15	41·9	9·97074
4		22	37·27		18	27·3	·97285
5		21	50·23		21	23·9	·97506
6		21	4·91		24	31·8	·97734
7		20	21·31		27	50·6	·97970
8		19	39·65		31	20·2	·98215
9		18	59·94		35	0·9	·98468
10		18	22·26		38	52·5	·98728
11		17	46·58		42	54·8	·98995
12		17	12·84		47	7·2	·99269
13		16	41·30		51	30·1	·99550
14		16	11·99	9	56	3·5	9·99837
15		15	44·91	10	0	47·0	0·00129
16		15	20·09		5	40·7	·00428
17		14	57·43		10	44·2	·00732
18		14	37·10		15	57·0	·01041
19		14	19·08		21	19·1	·01355
20		14	3·36		26	50·1	·01673
21		13	49·95		32	30·2	·01995
22		13	38·79		38	18·8	·02322
23		13	29·91		44	15·5	·02653
24		13	23·36		50	20·4	·02987
25		13	19·14	10	56	33·1	·03324
26		13	17·22	11	2	53·3	·03664
27		13	17·45		9	20·8	·04007
28		13	19·92		15	55·3	·04353
29		13	24·70		22	36·6	·04701
30		13	31·75		29	24·5	·05051
31	3	13	41·10	+11	36	18·9	0·05404

Magnitude at opposition, November 19 = 7·9.

1909MNRAS..69..619D

Recent Observations of the Rings of Saturn, and their bearing upon some of the Phenomena of the Disappearance of the Rings in 1907. By E. E. Barnard.

In *A.N.* 4276 and 4277 announcement was made of the discovery of a new dark ring exterior to the bright rings of Saturn, by E. Schaer at the Observatory of Geneva.

In *A.N.* 4287, R. Jarry-Desloges shows that this ring was really discovered on 1907 September 5 and 7, at his observatory on Mount Revard, by Mr. G. Fournier.

This new ring is in part verified by observations made at Greenwich with the 28-inch refractor in October of 1908 (*M.N.*, lxix., November 1908), where a dusky ring was seen partly surrounding the bright rings. Though this was unmistakable in some of the observations, nothing is said as to the real width of the new ring, except that it was narrow. The Greenwich observations were made with powers of 450–550 and 670 on the 28-inch refractor. The object was apparently not difficult.

I observed Saturn carefully a number of times in 1908 as a continuation of my work of the year before (*M.N.*, lxviii. pp. 346–368). These observations did not show anything of the new ring, though it might have escaped notice at first through my not knowing of its existence. A careful search was made for it, however, on 1909 January 12 and 19, under good conditions, when nothing suggestive of its existence was seen. In November and the first part of December my whole attention was taken up with comet photography during the time that Saturn was in good position above the horizon, and no observations were obtained of the planet.

In all the observations of 1908 the rings of Saturn were carefully examined in hopes of finding something that would explain the presence of the luminous condensations seen on the dark part of the rings in 1907. When the conditions were good, therefore, the exterior dark ring ought to have been seen had it been as bright as when observed at Geneva and Greenwich.

As the observations of 1908 have a special bearing on some of the problems connected with the rings of Saturn, and especially with respect to this reported new dark ring, I will give them here, omitting those which, from poor conditions of seeing, are not important.

1908 July 19. Beautiful definition, magnifying power 700. The crape ring was unusually bright and the Cassini division well seen. The rings appeared flat and thin. The inner bright ring was very feebly brighter near the Cassini division. There was nothing to suggest the cause of the condensation seen last year. The shadow of the ring on the ball and the trace of the crape ring were well seen. The shadow of the ball was sharp and black. The south polar cap was quite dark. The ball was decidedly brighter than the rings.

Aug. 4. Definition good. The south polar cap was quite